Please add new claims 24-55 as follows:

--24. A method of fabricating a semiconductor device comprising the steps of:

forming an amorphous semiconductor film on an insulating surface;

adding a solution including a catalyst material in contact with said amorphous semiconductor film, said catalyst material being capable of promoting crystallization of said amorphous semiconductor film;

first heating said amorphous semiconductor film to crystallize said amorphous semiconductor film;

irradiating said crystallized semiconductor film with a light to promote further crystallization of said crystallized semiconductor film after said first heating step; and

second heating said crystallized semiconductor film at a temperature in the range of 450-750°C to reduce defects therein after said irradiating step.

25. A method according to claim 24 wherein said second heating step is performed in a nitrogen atmosphere.

26. A method according to claim 24 wherein said catalyst material is at least one selected from the group consisting of Fe, Co, Ni, Ru, Rh, Pd, Os, Ir, Pt, Cu, Ag and Au.

27. A method according to claim 24 wherein said solution includes at least one selected from the group consisting of water, alcohol, acid and ammonia.

28. A method according to claim 24 wherein said solution includes at least one selected from the group consisting of benzene, toluene, xylene, carbon tetrachloride, chloroform, and ether.

29. A method according to claim 24 wherein said semiconductor film is a silicon film.

30. A method according to claim 24 wherein said light is a laser light.

31. A method according to claim 24 wherein said light fuses a surface of said semiconductor film in the irradiating step.

32. A method of fabricating a semiconductor device comprising the steps of:

forming an amorphous semiconductor film on an insulating surface;

selectively adding a solution including a catalyst material in contact with a first portion of said amorphous semiconductor film while a second portion of said amorphous semiconductor film is not added with said solution, said catalyst material being capable of promoting crystallization of said amorphous semiconductor film;

first heating said amorphous semiconductor film to crystallize said amorphous semiconductor film so that crystal growth proceeds from said first portion to said second portion in a lateral direction with said insulating surface;

irradiating said crystallized semiconductor film with a light to promote further crystallization of said crystallized semiconductor film after said first heating step; and

second heating said crystallized semiconductor film at a temperature in the range of 450-750°C to reduce defects therein after said irradiating step.

33. A method according to claim 32 wherein said second heating step is performed in a nitrogen atmosphere.

34. A method according to claim 32 wherein said catalyst material is at least one selected from the group consisting of Fe, Co, Ni, Ru, Rh, Pd, Os, Ir, Pt, Cu, Ag and Au.

35. A method according to claim 32 wherein said solution includes at least one selected from the group consisting of water, alcohol, acid and ammonia.

36. A method according to claim 32 wherein said solution includes at least one selected from the group consisting of benzene, toluene, xylene, carbon tetrachloride, chloroform, and ether.

37. A method according to claim 32 wherein said semiconductor film is a silicon film.

38. A method according to claim 32 wherein said first portion of the crystallized semiconductor film comprises said catalyst material at a first concentration of 1×10^{16} to 1×10^{19} cm^{-3} while said second portion of the crystallized semiconductor film comprises at a second concentration lower than said first concentration.

39. A method according to claim 32 wherein said light is a laser light.

40. A method according to claim 32 wherein said light fuses a surface of said semiconductor film in the irradiating step.

41. A method of fabricating a thin film transistor comprising the steps of:

forming an amorphous semiconductor film on an insulating surface;

selectively adding a solution including a catalyst material in contact with a first portion of said amorphous semiconductor film while a second portion of said amorphous semiconductor film is not added with said solution, said catalyst material being capable of promoting crystallization of said amorphous semiconductor film;

first heating said amorphous semiconductor film to crystallize said amorphous semiconductor film so that crystal growth proceeds from said first portion to said second portion in a lateral direction with said insulating surface;

irradiating said crystallized semiconductor film with a light to promote further crystallization of said crystallized semiconductor film after said first heating step;

second heating said crystallized semiconductor film at a temperature in the range of 450-750°C to reduce defects therein after said irradiating step; and

forming a channel forming region of said thin film transistor using said second portion of the crystallized semiconductor film.

42. A method according to claim 41 wherein said second heating step is performed in a nitrogen atmosphere.

43. A method according to claim 41 wherein said catalyst material is at least one selected from the group consisting of Fe, Co, Ni, Ru, Rh, Pd, Os, Ir, Pt, Cu, Ag and Au.

44. A method according to claim 41 wherein said solution includes at least one selected from the group consisting of water, alcohol, acid and ammonia.

45. A method according to claim 41 wherein said solution includes at least one selected from the group consisting of benzene, toluene, xylene, carbon tetrachloride, chloroform, and ether.

46. A method according to claim 41 wherein said semiconductor film is a silicon film.

47. A method according to claim 41 wherein said first portion of the crystallized semiconductor film comprises said catalyst material at a first concentration of 1×10^{16} to 1×10^{19} cm^{-3} while said second portion of the crystallized semiconductor film comprises at a second concentration lower than said first concentration.

48. A method according to claim 41 wherein said light is a laser light.

49. A method according to claim 41 wherein said light fuses a surface of said semiconductor film in the irradiating step.

50. A method of fabricating a semiconductor device comprising the steps of:

forming an amorphous semiconductor film on an insulating surface;

introducing a catalyst material in contact with said amorphous semiconductor film, said catalyst material being capable of promoting crystallization of said amorphous semiconductor film;

first heating said amorphous semiconductor film to crystallize said amorphous semiconductor film;

irradiating said crystallized semiconductor film with a light to promote further crystallization of said crystallized semiconductor film after said first heating step; and

second heating said crystallized semiconductor film at a temperature in the range of 450-750°C to reduce defects therein after said irradiating step.

51. A method according to claim 50 wherein said second heating step is performed in a nitrogen atmosphere.

52. A method according to claim 50 wherein said catalyst material is at least one selected from the group consisting of Fe, Co, Ni, Ru, Rh, Pd, Os, Ir, Pt, Cu, Ag and Au.

53. A method according to claim 50 wherein said semiconductor film is a silicon film.

54. A method according to claim 50 wherein said light is a laser light.